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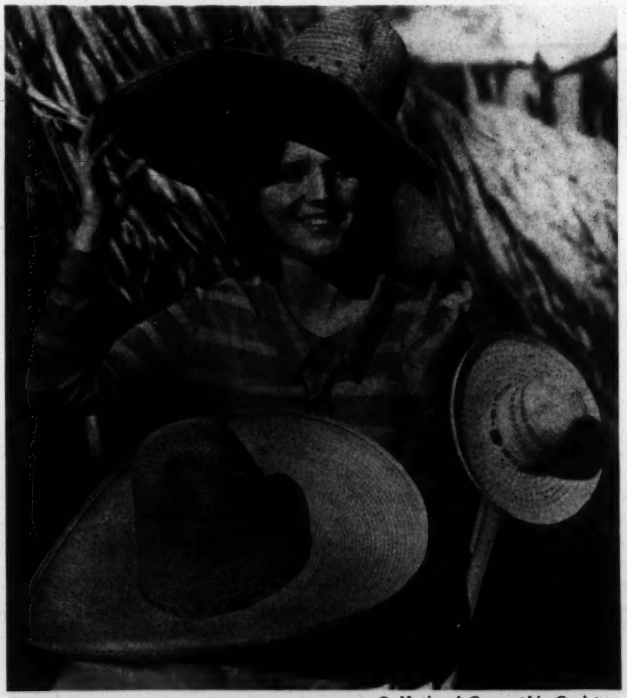

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AT THE RIO GRANDE, TEXAS TIPS ITS HAT TO MEXICO

In Brownsville, on the Rio Grande, are manufactured these semi-tropical headgear which combine the size of the Texas ten-gallon felt hat with the material of the Mexican sombrero (see Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Rock Slide Buries Part of Juneau, Alaska's Capital

WITHOUT warning, a 100-foot mass of loose rock slid down the mountainside and buried a section of Juneau, capital of the Territory of Alaska, recently.

At least fourteen persons were reported victims of the sticky mass of mud, stone, shattered timbers and house walls that cut a swathe through the apartment district of the capital city.

Like many other towns along the scenic coast of Alaska's southeastern "panhandle," Juneau lies literally in the path of such slides (see illustration, page 2). Heavy rains at times loosen the steep slopes. But it is only rarely that sections of the mountainside come tumbling down with such disastrous results as those following the slide of last month.

Series of "Stair Steps" Begins at Docks

Juneau is built like a series of stair steps from the water's edge to the base of lofty mountains which, in many places, are pock-marked with holes bored by optimistic seekers for gold. Some of these holes yielded metal and diggers became rich; others were abandoned when "pay dirt" failed to appear.

The first of Juneau's "stair steps" is the dock area along the shore of its deep harbor. Here is the district where is heard the babble of fishermen from the halibut and salmon fleets and of citizens that greet thousands of tourists annually; the whir of the saw mill, preparing lumber to be used locally and for export; and the din of sheet metal works and machine shops that largely make up Juneau's small industrial world.

The second step is occupied by business and government buildings, flanking streets that cross and recross at right angles. This step slopes upward, rather gently, to the third, where stand many of the city's best residences and apartment houses. Back of the third step soar the mountains, that in some places reach a height of 4,000 feet.

Underlying the city is a bed of rock. In fact, so rocky is this region that a grass-covered yard much larger than a hall bedroom is a luxury. Most garden soil is hauled to the home sites. But once planted these little plots raise crops of amazingly huge vegetables and flowers.

Many Recent Improvements

Juneau was a city of about 8,000 people before the World War. Gold operations near the city attracted many of its inhabitants, and then lumber and government activities drew others.

The World War took away many of its men, some of whom never returned. Others left when some gold mines played out and there was little possibility of a return to the boom days that brought them. By 1930 only about 4,000 inhabitants remained, but recently the city has been rising from its slumber with renewed activities in mining and shipping.

Despite Juneau's economic ups and downs, it has forged ahead in city improvements. Not many years ago its streets were of plank and nearly every building was of frame construction. Today government buildings and many of the larger business buildings are of concrete and stone. The streets they flank now are paved with concrete and macadam. Visitors are often surprised to see taxis, trucks and

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Photograph by E. Andrews

ALASKA'S CAPITAL AND LARGEST CITY IS THE TERRACED TOWN OF JUNEAU

Juneau is pictured with its visible means of support: hillside forests to feed its sawmills, a mill on the right to process ore from its gold mines, and the waterfront by which it carries on a lively steamship commerce with Seattle as well as the Alaskan coast. Here the Territorial Assembly of Alaska meets every two years. A cold storage plant receives halibut caught many miles away (see Bulletin No. 1).

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Rio Grande, Our Wandering Boundary River, Has New Attractions

THE Rio Grande, fluid southeastern boundary line of the United States, will soon be the scene of new developments in the realms of both business and pleasure. Plans for further irrigation projects around its lower reaches will increase its agricultural as well as its political importance. And progress in plans for the park in the Big Bend region, where the river turns its southeastward course toward the northeast, will give it another attraction for travelers.

The Big Bend National Park project concerns a million and a half acres of rugged Texas. Here the river crashes through canyons, and winds its way through wild mountain scenery. The Mexican Government recently announced that it will set aside a corresponding region across the river, about half as large, to give the Park an international aspect. When plans are completed, this great southwest wilderness region will comprise the largest international park on the continent.

Wandering River Causes International Headaches

The rôle of "Exhibit A" in a huge mountainous park will be less difficult for the Rio Grande than its traditional one of boundary. This river, unreliable where it traverses plains country, has shifted numerous times, with subsequent mix-ups of nationality. Parts of the United States are even now stranded south of the Rio Grande boundary, where one would expect to find only Mexico.

Half of the United States-Mexico boundary is marked off by this fickle river. Rising in Colorado, it wanders all the way down to El Paso before starting on its diplomatic career. For over two-thirds of its length, which is somewhat less than 2,000 miles, it bounds both countries.

In its lower course it grows wide and shallow. Its expansive nature is taken advantage of by enterprising farmers, who make use of its waters to irrigate thousands of acres before the river finally empties into the Gulf of Mexico.

For ages the Rio Grande wandered at will across the broad valley that lies just above El Paso, as well as over the equally wide valley that lies below the city. A careful observer driving over the valleys can see almost forgotten channels far from the present river. Maps since 1850, when the earliest American surveys were made, show a confusing maze of looping and intersecting lines that represent the dim ghosts of Rio Grandes of 25, 50, 75, and 80 years ago.

River Changes Jumbled Property Titles Between States and Nations

As the Rio Grande has been the boundary, since 1850, between Texas and a small section of New Mexico, and, since 1835, between Texas and old Mexico, the wanderings of the river in the two valleys near El Paso have caused constant intergovernmental disputes and have played havoc with property titles. In the upper valley, the problems have been domestic, between Texas and New Mexico. Innumerable law suits between property owners sprang from the erratic river changes.

It was not until the United States Supreme Court handed down a decision in 1928 that numerous residents in El Paso's upper valley knew what State they were living in. For many miles the boundary fixed by the court does not follow the Rio Grande of today, but lies to the west along what has been determined to be the river bed of 1850.

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pleasure cars in this city where outlying roads reach only a few miles beyond the city limits.

Where Evening Begins at 3 p.m.!

The city's department stores, souvenir shops, hotels, daily newspaper and thriving banks indicate that Juneau faces the future with even greater progress in view.

Though Juneau is rather far north, its thermometers seldom fall below zero. The chief complaint of the newcomer in the winter is that the days are so short. Electric lights are turned on before three in the afternoon, and dawn does not break until about 8 a. m.

In midsummer, however, darkness does not come until 10 p. m. and dawn breaks about 2 a. m.

Note: For other Alaskan references and photographs see "The Conquest of Mount Crillon," *National Geographic Magazine*, March, 1935; "'Nakwasina' Goes North," July, 1933; "Men and Gold," April, 1933; "World Inside a Mountain," September, 1931; "Today on 'The Yukon Trail of 1898,'" July, 1930; "Mapping the Home of the Great Brown Bear," January, 1929; "The First Alaskan Air Expedition," May, 1922; and "Our Greatest National Monument," September, 1921.

For a recent map of the region around Juneau see the "Special Map Supplement of the Pacific" with the December, 1936, issue of the *National Geographic Magazine*. This map indicates the air route that connects Juneau with the Yukon and central Alaska.

Bulletin No. 1, December 14, 1936.

Photograph by Jack Calvin

SILVER SALMON BRING GOLD TO JUNEAU—INDIRECTLY

Juneau is a supply center for much of southeastern Alaska's fishing industry, selling equipment and gear as well as supplying regulations of the Territorial Government. Although there are few salmon in the inlet upon which Juneau is built, regular salmon routes pass the west side of Douglas Island across the inlet. Most of the salmon in this area are taken in traps, but a number of purse seines (such as the one shown above) are still used. These large circular nets are spread on the water and kept afloat by the rings through which the "purse-string" runs. Fishermen pull the draw-string, and it gathers in the net with its struggling salmon catch.

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Expedition to Collect Animals in Sumatra for Washington Zoo

BOUND for the jungles of Sumatra, exactly halfway around the world from Washington, a party of Washingtonians will set out early in 1937 to "bring back alive" wild animals of the Far East. The members of the expedition will also collect geographic and natural history information and take photographs.

The Expedition, under the joint auspices of the National Geographic Society and the Smithsonian Institution, was announced in November by Dr. Gilbert Grosvenor, president of The Society. It will be headed by Dr. William M. Mann, Director of the National Zoological Park, and the animals brought back will enrich the collection in Washington's famous Zoo, now one of the leading institutions of its kind in the country.

Will Use Special "Mercy Traps"

Accompanying Dr. Mann will be Mrs. Mann; Dr. Maynard Owen Williams, chief of the foreign editorial staff of the National Geographic Society; and Roy Jenier and Malcolm Davis, of the Zoo staff.

The party will sail from Seattle, and, after brief pauses in Japan, the Philippines, and Singapore, will establish headquarters at some place on the Netherlands island of Sumatra, near the sea and within easy reach of "wild country."

In the Expedition's baggage will be a number of special "mercy traps" and a few cases in which to carry small, delicate creatures. The mercy traps are boxlike devices designed to prevent injury to the animals.

The heavy traps and transporting cages needed for the larger jungle beasts will be built in the field.

The region to be visited is at present only poorly represented by animals in the National Zoological Park, Dr. Mann feels. He has not mapped out a definite list of specimens that must be brought back, however. Instead he will confer with game officials and naturalists in Netherlands Indies, and will collect whatever he can of the missing specimens.

Mammals, reptiles, birds, and a few fishes will be the primary objects of the collectors, but in spare time Dr. Mann hopes also to collect insects and even a few botanical specimens.

May Also Visit Island of Ceram

The collection trip to the East Indies under joint Geographic and Smithsonian auspices has been planned for some time, Dr. Grosvenor disclosed. The project was approved and organized with its complete personnel two years ago, but had to be delayed because of the start then of the extensive building program at the Zoo which has since held Dr. Mann in Washington.

After the work is completed in Sumatra, the Expedition expects to visit the Netherlands island of Ceram, almost 2,000 miles to the east, and possibly some of the East Indian islands not under Netherlands jurisdiction. Before starting home, the party will also call at Bangkok, Siam.

The Expedition will return through the Indian Ocean and the Mediterranean to England. There the tons of muscle and claws and fangs, and the dozens of squirming snakes, securely encased in their crates, will be hoisted on board an American ship for the final leg of the journey, across the Atlantic. If possible, it

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Straightening out the international boundary below El Paso has been a difficult task. There have been numerous treaties; but the temperamental Rio Grande has frequently created situations that existing treaties could not quite be made to cover.

East of El Paso the Rio Grande meanders over an almost level valley, forming numerous loops, great and small. When floods come, the river is almost sure to make a short cut across one or more of these loops. The patches of land left in the loops by the formation of a new river bed are called *bancos*. Thus bits of Texas have in effect been tossed suddenly into Mexico; and fragments of Mexico, into Texas.

Where the United States Is On the Mexican Side of the Rio Grande

If *bancos* are very small, they become a part of the country to which they are shifted. But if they are large the international boundary continues to follow the old stream bed. A striking example of large areas cut off by river changes is found 25 miles southeast of El Paso near Fabens, Texas—an area considerable enough to be seen on large scale maps of the United States. One can cross the bridge that spans the Rio Grande, drive a mile or more south, and still find himself in the United States. The international boundary there is a little grass-grown dale that many years ago was the bed of the river.

Floods have been checked somewhat by the building of Elephant Butte Dam, which creates a huge impounding reservoir for the Rio Grande in central New Mexico.

Note: Additional photographs and information about our wandering Mexico boundary will be found in "By Seaplane to Six Continents," *National Geographic Magazine*, September, 1928; "So Big Texas," June, 1928; "Along Our Side of the Mexican Border," July, 1920; and "Wandering Islands in the Rio Grande," March, 1913.

The Society's New Caribbean Map shows the Rio Grande boundary between the United States and Mexico. Copies of this map may be had for 50c (paper), or 75c (linen).

Bulletin No. 2, December 14, 1936.

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ONE WAY TO SEE MEXICO: THROUGH FIELD GLASSES

Two officers of the American Border Patrol keep an eye on their neighbors across the river. This lonely section of the Rio Grande, Smuggler's Bend near Laredo, is typical of the shallow river's winding course. Laredo has recently become a favorite jumping-off-place for "going abroad," since the newly improved section of the Pan American highway to Mexico, D. F., leaves the United States and crosses into Mexico there.

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Mackinac Island, Where "Horse and Buggy Days" Prevail

AT THIS time of the year, when many persons are discussing motor shows and new automobile models, a strange item appears in the grist of the day's news. From Mackinac Island, a bit of Michigan between the Upper and the Lower Peninsulas, comes a report that the excited residents have seen an automobile—just an automobile, make or model not stated—on the limestone roads of their native heaths!

The dispatch would not be "news" if Mackinac Island were not noted as a favored summer vacation spot, where motor-driven vehicles have long been barred by law to insure peace and quiet and "something different" to lure tourist trade. The law recently was set aside in order to transport an accident victim from his home to a steamer.

Island is Famous for What it Lacks

Inhabitants of Mackinac have a strange way of boasting of their island. Instead of praising its cool, breezy summer climate and other outstanding features, they tell the world what it lacks—hay fever, mosquitoes, automobiles, street cars, and railroad trains.

From the deck of an approaching ship, a visitor sees white limestone bluffs that are a foil to the island's green crown of forest. The huge porticoed face of the Grand Hotel, the walls of the Old Fort and most houses in Mackinac, the island's only town, are spotlessly white.

The visitor's first impression of order and cleanliness is retained on landing when he hears no honking taxis or throbbing buses, and is attacked by no fumes of gasoline. The old fishing and trading village has expanded into a modern resort town, with fine shops, all modern public utilities and splendid hotels and summer homes.

For a tour of the numerous shrines of history and legend, one may hail a carriage-for-hire. The enforced slow pace of the vehicle allows full enjoyment of the rich scenic resources contained within the island's skimpy limits—two by three miles.

Sugar Loaf and the Devil's Kitchen

There are more than 25 miles of drives, saddle paths and foot trails on the island. They lead to spots whose historic associations or curious natural formations repay a visit. The wave-carved Arch Rock, with its 50-foot span; thumblike, limestone Sugar Loaf; and the Devil's Kitchen, a favorite cave where tourists roast marshmallows in a huge fireplace, are a few of the points of interest.

Since the end of French rule, activity on the island has centered about its Fort Mackinac, which lies on the hill slope north of the town. Above its walls have waved both British and American flags as the two nations bandied control of the region. Begun by the British in 1780, it replaced Old Mackinaw on the mainland, which was insecure against attack by Indians and American Revolutionary soldiers.

In 1895 the Fort passed from national to State control and it is now included in the Mackinac Island State Park. Picturesque stone blockhouses have been restored.

Fort Holmes, perched on the highest point of the island, northeastward from Fort Mackinac, was erected by the British during the War of 1812. Below it spreads a delightful panorama of Lake Huron, with its tree-covered islets, and the distant shores of the Straits of Mackinac.

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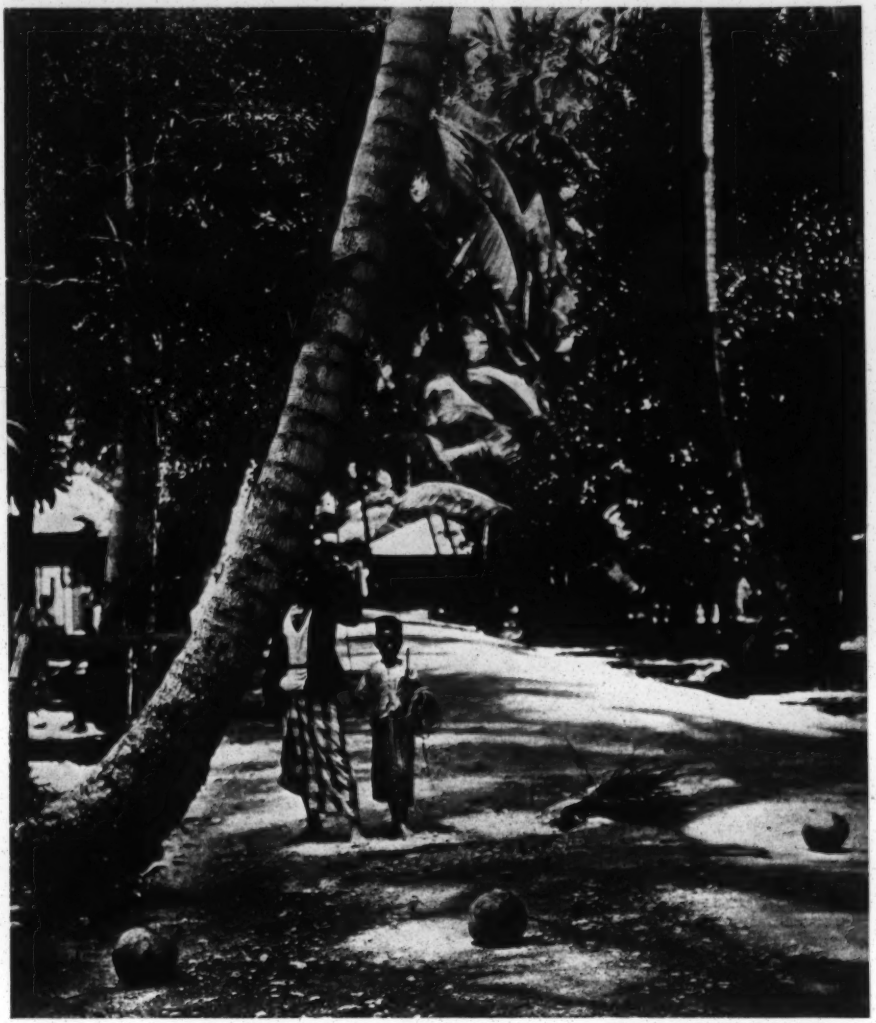
will be arranged to land at Baltimore so that the overland trip of the animal immigrants to their new homes in Washington will be short.

Note: See also "Nature's Most Amazing Mammal" (Elephant), *National Geographic Magazine*, June, 1934; "Among the Hill Tribes of Sumatra," February, 1930; "From London to Australia by Aeroplane," March, 1921; and "By Motor Through the East Coast and Batak Highlands of Sumatra," January, 1920.

Bulletin No. 3, December 14, 1936.



Photograph by W. Robert Moore

IN SUMATRA MONKEYS WORK FOR A LIVING

A trained monkey on a long leash climbs a tree and throws down a supply of coconuts to his masters. Sumatra, which is cut almost into exact halves by the Equator, is full of typical tropical animals: the orang-utan and the ape, the elephant and the tapir, the one-horned rhinoceros, the tiger and the flying fox, the wild dog and a rare kind of antelope found only in the mountains. The butterfly family is well represented, including one specimen which attaches itself to leaves of its favorite plant and blends with the background to escape its enemies.

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The Matterhorn, A Mountain Needle Lost in a Cloud-Stack

A THIRTY-SEVEN-PASSENGER cage, on a steel cable, hauls modern mountain climbers part way up the Italian side of the Matterhorn. Thus the spectacular Alpine peak advances further toward the doom once foretold for every lofty mountain giant: (1) unconquerable; (2) the most difficult ascent in the Alps; (3) an easy day for a lady.

The Matterhorn remained beyond man's reach until 1865, when a party of seven attained the hitherto unscaled summit. During the descent, four of the seven pioneers fell to their death on a glacier four thousand feet below.

Two days later the "unconquerable" peak was reached again. Since then, the Matterhorn has become increasingly popular with skilled climbers, until now as many as two dozen may be toiling up the hair-raising trail in a single day. But at least 39 have lost their lives on the dangerous ascent, or in coming down, which is even more perilous.

Summit Split by International Boundary

As high as twenty-seven Washington Monuments, one atop another, the Matterhorn soars above a ring of snow-capped summits like the peak of a tiara. The mountain wears a glittering glacier flung over one shoulder, and, above, a tall sloping collar of snow. The actual peak rises to heights where the winds allow little snow to rest for long, but sweep it down from the stark rocky top.

This pyramidal summit has precipitous walls, one of them overhanging, which fortified it against climbers almost a century after Mont Blanc had been conquered. The Matterhorn was the last great Alpine peak to surrender. Although rocks have been blasted away and ropes fixed to the more hazardous reaches, the trail to the top is still no primrose path.

The mountain can claim two countries as its place of residence, Switzerland and Italy. Their boundary line crosses the summit, dividing the roof-tree ridge so that one end is Italian, the other Swiss (see illustration, next page). The latter is the higher, according to Swiss yardsticks, by just 43 inches—14,705 feet.

Matterhorn by Any Other Name is Just as High

Pride in the Matterhorn, however, is greater than that figure would indicate. For it is one of the two highest peaks in which Italy has even a share. Switzerland particularly cherishes its mountain giants, since it contains only two-thirds of the Alps and the two highest summits are not wholly within its boundaries. Mont Blanc is in France, and Monte Rosa laps over into Italy, as does the Matterhorn.

Alpinists at the top of the Matterhorn, in clear weather, are as breathless from the view as from climbing. They can see miles of ice and snow and valley strips of green in three countries: the surrounding peaks of Switzerland, distant Mont Blanc in France, and southern mountains subsiding into the Italian plain.

International prominence has won the Matterhorn several names. Italians have been known to call it the Becca and Monte Silvio. French-speaking Swiss refer to it as Mont Cervin, or simply Le Cervin, "the stag," for the proud wild way it tosses its head. Matterhorn has been interpreted as "the peak above the meadow," but its more orthodox German meaning is pointed out as "the dim peak," since its ice-shrouded outline often is half hidden by clouds.

For generations it was feared as a haunted mountain, the home of the Wander-

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Indians of the Chippewa, Huron and Ottawa tribes inhabited Mackinac at various times. In 1763, at the close of the French and Indian War, control of the Mackinac region passed from the French to the British, who organized an important fur trade centering about the Straits and protected it with the Fort.

Once Base for Astor's Fur Company

It was surrendered to the Americans in 1796 and became the base of operations for John Jacob Astor's American Fur Company, when Mackinac was the provincial capital of the Northwest Territories. The old Astor House still holds early record books of the Fur Company.

The Treaty of Ghent (1814) gave Mackinac permanently to the United States after a temporary reoccupation by the British.

Note: Map showing the location of Mackinac Island, as well as additional photographs of the island, can be found in "Michigan, Mistress of the Lakes," *National Geographic Magazine*, March, 1928. See also "By Car and Steamer Around Our Inland Seas," April, 1934; and "Exploring the Mysteries of Plant Life," June, 1924.

Bulletin No. 4, December 14, 1936.

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FORT MACKINAC'S ARCHED SALLY PORT OVERLOOKS A PEACEFUL SCENE

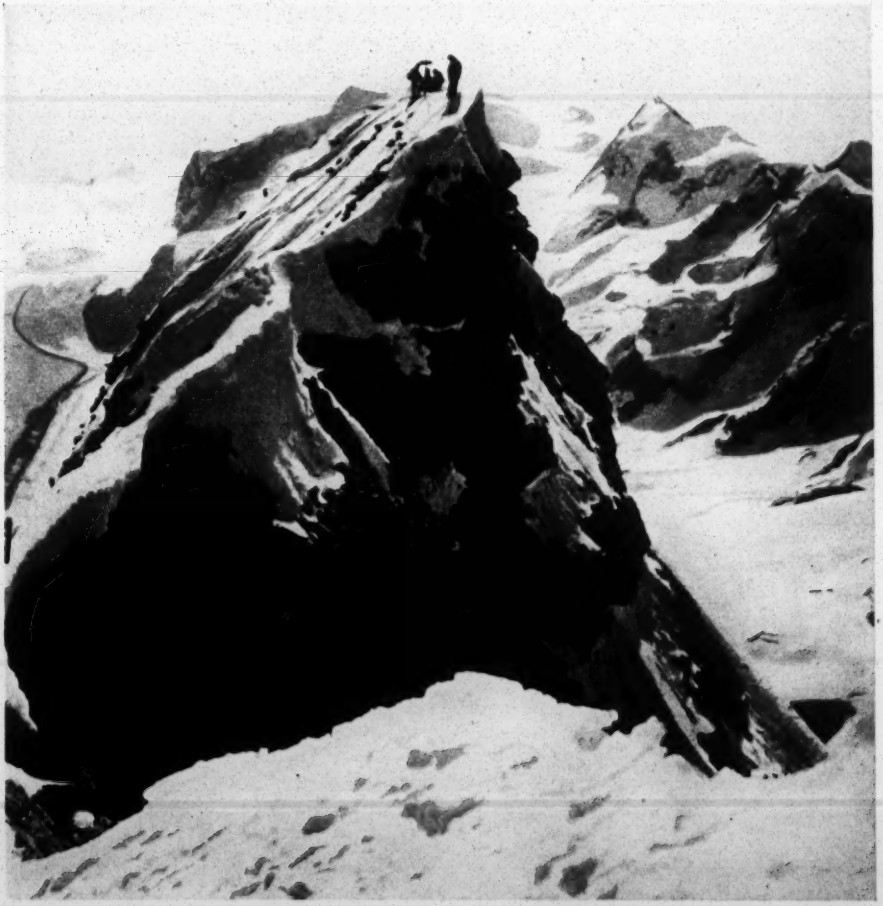
In the park below stands a statue of the famous French Jesuit missionary and explorer, Father Marquette. With Joliet, he re-discovered and explored the Mississippi River from the north, 132 years after De Soto penetrated its lower reaches in 1541. Beyond is the wharf, a busy spot during the summer months because Mackinac Island can be reached only by boat.

ing Jew, the stronghold of the wild man of Becca—a phrase to frighten children with. Valley dwellers thought the unvisited summit bore ruins of a city, where evil spirits lurked to bounce rocks down against ambitious climbers. Avalanche after avalanche swept down the rocky sides with such frequency that the Matterhorn was dubbed the "London Bridge of Alpine Peaks."

Travel is simpler around the Matterhorn today. Railroads run to Zermatt on the Swiss side and to Breuil on the Italian side, and the cable railway is on its way to joining these two resort towns. For climbers who venture skyward beyond the realm of mechanical transportation, there are huts to provide shelter, straw mattresses, blankets, and cups of tea.

The Society's collection of pictures for framing includes an excellent view of the Matterhorn. Its price is 50c. Write to The Society's headquarters, Sixteenth and M Streets, N. W., Washington, D. C., for pamphlet describing this and other pictures, books, and maps published by The Society.

Bulletin No. 5, December 14, 1936.



Photograph by Miriam O'Brien Underhill

BY CLINGING TO "FAINT DISCOLORATIONS OF THE ROCK," THEY REACHED THE TOP

Climbers may spend the night in a hut part way up the Matterhorn, and start before daylight with flashlights held in their mouths to show them footholds. Holds are sometimes so slight as to seem mere marks instead of ledges in the rock. The peak in the foreground, from which the photograph was taken, is the Italian side of the summit, and the climbers are stopping for lunch and breath on the Swiss peak.

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